MBTOC - the 1995 Assessment

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The UNEP Methyl Bromide Technical Options Committee report, the 1995 Assessment, was circulated early in 1995. This report was a product of two year's deliberation by the Committee. The main findings of the report were that, despite there being no single direct replacement for methyl bromide, there were actual, or potential, technically feasible alternatives for most of its uses. There were only a few uses for which no alternatives were identified at some stage of development. It was clear that alternatives would need to be assessed on a case-by-case basis. Improved application technology, reduced dosage rates, increased exposure times and recover/recycling technologies all had potential to reduce emission of methyl bromide to atmosphere, without reducing effectiveness, and still employing the recognized advantages of the material.

The report noted a rising trend in global methyl bromide usage up 1992, with about 18% of the total used at that time in developing countries. This was largely for production and export of high value commodities to developed countries, significant use for disinfestation cereal stocks.

SECOND INTERNATIONAL CONFERENCE ON ALTERNATIVES AND EMISSION REDUCTIONS FOR METHYL BROMIDE

PLENARY SESSION: INTERNATIONAL PANEL OF QUARANTINE REGULATORY AGENCIES - AUSTRALIAN QUARANTINE AND INSPECTION SERVICE

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The Australian Government is a signatory to the *Montreal Protocol on Substances that Deplete the Ozone Layer*. Methyl bromide was declared an ozone depleting substance in 1992 and its production and use in developed countries party to the *Protocol* is capped at 1991 levels. As the lead Commonwealth agency involved in implementing the *Protocol* obligations, the Environment Protection Agency (EPA) (an Agency of the Federal Environment Department) introduced licensing arrangements which restricted the importation of methyl bromide from 1 January 1995. The EPA has responsibility for consulting with affected parties in Australia, on methyl bromide restrictions and any obligations that flow from the *Protocol* negotiations. It has held consultative meetings with methyl bromide importers and various production-based users and other bodies including strawberry runner producers and growers, tomato producers and various elements of the nursery industry. AQIS has participated in some of these consultative meetings and has actively advised relevant quarantine and export industry interests and other bodies. About 80 per cent of methyl bromide use in Australia is for production purposes. A workshop funded by the Rural Industries Research and Development Corporation (RIRDC) in July last year considered a number of issues affecting this sector.

Although quarantine and pre-shipment uses of methyl bromide are small in total, flow-on effects are far reaching, as they facilitate the movement of horticultural products and their conveyances in international trade. Australia supports the current exemptions for quarantine and pre-shipment uses, noting that there may be some further clarification of the interim definitions agreed for these (see note). Some Parties to the *Protocol* have suggested changes to the exemptions. One proposal is to bring the exemptions under 'essential use' criteria, after other uses have been phased out. Another proposal seeks annual reductions (percentage unspecified) in the exemption level, from a certain (unspecified) date. Australia notes that the United States *Clean Air Act* seeks a complete ban on use of methyl bromide and currently has no provision for exemptions. However, AQIS would expect that provision for exemptions may be possible where it is accepted that alternatives are not available.

AQIS understands that the EPA will finalise the necessary administrative arrangements for an Australian position to be taken to the November 1995 meeting of the *Protocol* parties. In consultation with the quarantine and export users sector, AQIS has sought Australia's continued support for the current exemptions for these uses, at least until details of any suggested changes are available and can be considered. AQIS has asked the EPA to ensure that organisations involved in the import and export of plant and plant products (including their conveyances) are covered by its consultation activities and has provided contact information for this purpose.

Most import users are being kept abreast of developments by methyl bromide importers and distributors. For the export sector, and because of the loss of ethylene dibromide as a disinfestation treatment for a number of export markets, some alternative commodity treatments are either available or being developed under the auspices of the Horticultural Research and Development Corporation (HRDC). While this mechanism is important, the HRDC can only match funds made available by industry for such work. AQIS is not a research funding agency, but is seeking to identify and highlight the need for research on methyl bromide alternatives as a priority for funding.

Funding arrangements for the import sector are less well developed, although the EPA has provided some seeding funds to the Commonwealth Scientific and Industrial Research Organisation (CSIRO) for this purpose. The EPA is also maintaining close links with the National Registration Authority for Agricultural and Veterinary Chemicals in relation to procedures required to register alternatives for use on horticultural products.

Under *Protocol* obligations, AQIS is an effected user like any other. It is concerned that, in the short term at least, it is unlikely that alternatives to methyl bromide will be developed that will have similar features in terms of its broad-spectrum efficacy or be as timely and cost effective to apply. Currently, AQIS's quarantine procedures allow for the use of various methyl bromide schedules, to address quarantine risks that may arise during clearance of a range of imported goods, including:

- fresh and dried fruits and vegetables, nuts, grains and seeds
- cut flowers and nursery stocks
- handicrafts and animal fibres
- timber and wooden products
- and a wide range of other agricultural products and other imports.

AQIS endorses the initiative for a comprehensive effort to develop alternative commodity treatments to replace methyl bromide and believes these efforts will need to take international research initiatives into consideration. AQIS has been in close liaison with relevant research funders, to reiterative the need to develop new commodity treatments to replace methyl bromide.

AQIS believes that, in addition to the focus on the implications arising from the absence of alternatives for certain quarantine and pre-shipment uses, additional attention should be paid to recent developments with alternatives that can be used, especially the technical and administrative procedures required to facilitate their adoption. This will require the increased use of physical commodity treatments and/or off-shore phytosanitary procedures to mitigate pest risk, such as sourcing product from pest free areas and developing systems approaches to ensure phytosanitary security requirements are met. This activity will closely parallel the development of international standards for these phytosanitary measures, being developed by the International Plant Protection Convention Secretariat within FAO.

NOTE:

Although AQIS originally recommended that GATT Sanitary and Phytosanitary (SPS) and International Plant Protection Convention terminology be adhered to wherever possible, definitions for quarantine and pre-shipment have been the subject of much development to date and are unlikely to change substantially. Interim definitions supporting exemptions for these uses are:

a) "quarantine applications", with respect to methyl bromide, are applications to prevent the introduction, establishment and/or spread of quarantine pests (including diseases), or to ensure their official control where:
   i) Official control is that preformed by, or authorised by, a national plant, animal or environmental protection or health authority;
   ii) quarantine pests are pests of potential importance to the areas endangered thereby and not yet present there, or present but not widely distributed and being officially controlled;

b) "pre-shipment applications" are those treatments applied directly preceding transportation, to meet the official phytosanitary or sanitary requirements of the importing [geographical area]/country.

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Actions Japan is Taking under the Control of Methyl Bromide

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Protection of ozone layer is a common and significant subject for the human beings, thus, it is quite important to reduce emission of the ozone depleting substances. On the other hand, methyl bromide is a pesticide extremely useful to the agricultural growing practice, particularly in the preplanting treatment as well as plant quarantine treatment.

Japan imports a tremendous amount of plant commodities from the United States. When pests are intercepted in plant quarantine at the entry of Japan, they are mostly subject to the methyl bromide fumigation treatment. In the meanwhile, apple, cherry, nectarine and walnut bound for Japan are under preshipment treatment in the States. Their imports are supposed to be under ban for the codling moth as a general rule, however, US had made a success of the complete sterilization techniques to this pest to lift the ban for those plant importations.

Methyl bromide was nominated as a ozone depleting substance in the Fourth Parties Meeting of Montreal Protocol in Copenhagen in November 1992. It was further determined that the level of production and consumption from 1995 is freezed at the level of 1991 with exemption of plant quarantine and preshipment treatment. Furthermore, it is requested to make every effort to reduce emission as much as possible. In response to this determination, Japan MAFF suggested to the farmers in June 1994 that they are expected to use existing substitutes for soil sterilization treatment by all means and in case that they do not

have any options other than methyl bromide use, they are requested to make best to minimize the emission. Moreover, MAFF newly registered methyl bromide appropriative to the plant quarantine treatment use only for the prevention from some other uses.

In case that introduction of the pests to Japan might be concerned to give serious damage to the agricultural production, Japan places import of some species of host plants under the ban. However, if exporting country develops techniques to kill these pests completely to show the data concerned and we accept their proposals, we lift the ban under the conditions that our plant quarantine official confirms the implementation of related preshipment treatment at the site. We are now allowed to import apple, cherry, nectarine and walnut from the States with methyl bromide preshipment treatment to the codling moth. Should methyl bromide phases out in the States and is not allowed to use any more, we will not be permitted to import those plants unless alternative method is developed and related data assessment and regulatory procedures are completed. Under current regulatory procedures to address lifting ban, alternative measures application needs same process as the ones with methyl bromide.

As the substitutes to the methyl bromide for the sterilization to the grain, aluminium phosphide and carbon dioxide are currently available. However, no practical substitute is found available to the treatment of fresh fruits and vegetables at present. Recently, we established sterilization schedule for quarantine treatment with mixed gas of methyl bromide, carbon dioxide and hydrogen phosphide to cut flower, resulting in some contribution of emission reduction with less dose of methyl bromide. We are now undertaking to make researches on the availability of carbon dioxide, sulfuryl fluoride, hydrogen phosphide and those mixture gas to the treatment of grain and timber.

NEW ZEALAND STRATEGY RELATING TO THE POSSIBLE WITHDRAWAL OF METHYL BROMIDE FOR PLANT QUARANTINE PURPOSES

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New Zealand, like many other trading nations, has two main plant quarantine uses for methyl bromide; these being treatment of plant produce following the interception of quarantine pests at its border and mandatory treatment of some exported plant products as a condition of market access. The New Zealand Ministry of Agriculture has no mandatory requirement for imported plant produce to be fumigated with methyl bromide prior to shipment from a supply country.

The New Zealand Ministry of Agriculture is not researching alternative treatments to methyl bromide *per se,* but if commercial operators were to develop efficacious treatments for quarantine pests on imported produce, accreditation of such third party operators would be considered. Rather, the Ministry of Agriculture's strategy is to reduce the need for methyl bromide fumigation on arrival in New Zealand. The intended means of achieving this, is to ensure that supply countries have sufficient information relating to New Zealand's phytosanitary requirements in order that their produce may be "treated" prior to export to ensure that it is free from pests of quarantine concern to New Zealand. There are a number of ways an export country could achieve this, e.g. field control programmes, pest free areas, post-harvest dips.

New Zealand's procedure for reducing the need for methyl bromide fumigation is as follows:

i Supply the potential export country with a comprehensive list of organisms, categorised into quarantine and non-quarantine pests (from a New Zealand perspective), for which the intended export plant (product) has been recorded as a vector (this may include the packaged product).

ii Request that the potential export country identify from the list, those organisms present in that country recorded on the intended export product, as well as adding any other organisms recorded on that product that do not appear on the list.

iii On receipt of the potential export country's list, New Zealand ascertains and determines the phytosanitary measures required (e.g., inspection for readily detectable pests, field control programmes, crop surveys).

iv Provide the potential export country with New Zealand's import health standard (IHS) for that particular country:crop combination. The IHS would contain the categorised pest list, the phytosanitary measures to be implemented and the additional declarations to be added to the phytosanitary certificate (by the control authority) stating that the measures had in fact been undertaken.

Under this system, there will eventually be a New Zealand import health standard for every supply country:crop combination. The New Zealand Ministry of Agriculture recognises the enormity of this task and resources are being diverted to enable the completed system to be in place by the year 2000, in anticipation of methyl bromide being phased out soon after that date.

Likewise, with New Zealand's export plant products, the strategy is to determine those pests of quarantine concern to the importing country and implement measures in New Zealand to reduce the need for fumigation on arrival. The only products requiring mandatory methyl bromide fumigation (for codling moth) pre-export are apples, nectarines and cherries to be exported to Japan. The methyl bromide replacement strategy for these products, is to determine the efficacy of field treatment(s) and compare this with the pre-export methyl bromide fumigation. New Zealand experience has shown that field control programmes for codling moth in export crops are at least equivalent to the efficacy of the accepted methyl bromide treatment. However in order for the field programme to be considered as a replacement treatment, the efficacy will need to be quantified and consequently, New Zealand is allocating resources to investigating appropriate methods of achieving this.